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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO. <i>MT</i>
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EXAMINER

ART UNIT	PAPER NUMBER <i>7</i>
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DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/363,191

Applicant(s)

KOFUJI ET AL

Examiner

Luz L. Alejandro

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 10-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-9, Group A in Paper No. 6 is acknowledged. Claims 10-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Specification

The disclosure is objected to because of the following informalities: at page 7, line 4 and line 6, seems that "tubuldischargeylinders" is misspelled

Appropriate correction is required.

Also, the claims in this application do not commence on a separate sheet in accordance with 37 CFR 1.52(b). Appropriate correction is required in response to this action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 3 recites the limitation "said low pressure area" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim. Also, it is not clear what applicants means by the phrase "...wherein said antenna is in an atmosphere, and said means for exhausting said chamber to a low pressure vacuum, and...", seems that the phrase is incomplete.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Yokogawa U.S. Patent 5,891,252.

Yokogawa et al. shows the invention as claimed including a dry etching apparatus for treating a body (see col. 1, lines 4-9) comprising: a chamber; a holder 111 in the chamber to receive a body 310 to be treated; means 120 for introducing the gas into the chamber; means for exhausting the gas in the chamber; a power supply 304 of Ultra High Frequency of 500 MHz frequency; a microstrip antenna 308 coupled to the power supply and having a disk form; and as broadly claimed the dielectric plates 306 and 306' serve as separation plates between the antenna and the chamber (see figure 7 and its description).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokogawa et al., U.S. Patent 5,891,252.

Yokogawa et al. does not expressly disclose that the antenna is located in an atmosphere different to the low vacuum in which the exhausting means is located and that the separation means is located between both locations. However, Yokogawa et al. in the sixth embodiment of the invention (fig. 12) disclosed that an apparatus in which the antenna is located in such claimed atmosphere, can be readily manufactured and maintained (see col. 13, lines 60-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of the Yokogawa et al. third embodiment as to located the antenna in an

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atmosphere different from the low pressure vacuum, as claimed, because in such way the apparatus can be readily manufactured and maintained.

With respect to claim 4, the examiner takes official notice that showerheads are well known and used gas introduction means in the art for uniform distribution of the gases. With respect to the claimed distance between the showerhead and the substrate holder, such limitation is considered to involve routine optimization while has been held to be within the level of ordinary skill in the art. Therefore, one of ordinary skilled in the art at the time the invention was made would have modified Yokogawa et al. by having a distance between the gas introduction means and the substrate holder of 100mm in order to optimize the apparatus and the process being performed in the apparatus.

With respect to claim 5, the apparatus further comprises a coil 302 outside of the chamber. Also, with respect to claim 8, Yokogawa et al. stated that the size of the circular conductive plate is set to a diameter in which a specific resonance mode of electromagnetic wave can be obtained. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modifying the size of the conductive plate as to obtained the desired claimed resonance mode of electromagnetic waves, as to optimize the apparatus and/or the process to be performed in the apparatus.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokogawa et al., U.S. Patent 5,891,252 as applied to claims 3-5 and 8 above, and further in view of Nakano et al., U.S. Patent 6,155,202.

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Yokogawa et al. does not expressly disclose that the power supply is provided in a form of a cone, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus disclosed by the Yokogawa et al. reference as to provide the power as claimed because such form of providing power is known and used in the art for a better power consumption efficiency and optimization of the film being formed, as disclosed by Nakano et al. in col. 11, lines 40-45, for a complete description see Nakano et al. fig. 16 and its description.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 703-305-4545. The examiner can normally be reached on 5/4/9.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3599 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



LLAM

May 18, 2001


GREGORY MILLS
SENIOR PATENT EXAMINER
TECHNICAL CENTER 1700